



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

December 12, 2007

Ref: 8EPR-N

Brent Northrup  
Bureau of Land Management  
Moab Field Office RMP Comments  
82 East Dogwood  
Moab, Utah 84532

RE: Draft Resource Management Plan and  
Environmental Impact Statement for the  
Moab Field Office Planning Area  
CEQ#: 20070357

Dear Mr. Northrup:

Consistent with our responsibilities and authorities under the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, the Region 8 office of the U.S. Environmental Protection Agency (EPA) has reviewed the Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Bureau of Land Management's (BLM) Moab Field Office Planning Area. The BLM manages approximately 1.8 million acres of public lands within this Field Office. In addition, the BLM also manages about 29,680 acres of federal mineral estate in the Moab Planning Area (MPA) and manages leasable minerals on about 141,000 acres under U.S. Forest Service lands on the Manti-La Sal National Forest. The area includes all of Grand County and the northern third of San Juan County in southeastern Utah.

This RMP will revise and replace the 1985 Grand Resources Area RMP. When completed, the RMP revision will provide long-term management direction to BLM on planning issues, including: recreation and travel, minerals, special designations such as Areas of Critical Environmental Concern (ACECs), non-Wilderness Study Areas (WSAs) lands with wilderness characteristics, and cultural resources. The Draft RMP/EIS considers four alternatives. Alternative A, No Action, would continue the existing management program. Alternative B emphasizes management actions to conserve ecosystem health and protect landscapes as well as encourage non-motorized recreation. Alternative C, BLM's Preferred Alternative, emphasizes protection of important natural resources as well as commodity production and a full range of recreation opportunities. Alternative D emphasizes commodity production and motorized recreation.

Our review of the Draft RMP/EIS includes general and specific concerns associated with recreation and travel management including off-highway vehicle (OHV) use, special designations including Wild and Scenic Rivers (WSR), protection of cultural and sensitive soil resources, and management of non-WSA lands with wilderness characteristics. These comments are provided in the enclosed “Detailed Comments.” EPA’s primary concerns are: the lack of information provided in BLM’s analysis of air quality impacts from various sources in the MPA including oil and gas development and; 2) the environmental impacts resulting from OHV travel and other recreational uses of BLM lands.

## **Air Quality Analysis Concerns**

Page 4-16 of the Draft RMP/EIS states that, “Full-scale dispersion modeling was not conducted for this analysis.” Instead, BLM analyzed general trends in air quality and visibility impacts specific to new sources in the planning area. EPA found projected concentrations in tables 2-7 and 2-8 of BLM’s Draft Analysis of the Management Situation (Draft AMS). However, it is not clear that these are the same projected concentrations mentioned in the Draft RMP/EIS. Table 4-8 of the Draft RMP/EIS indicates that the projected concentrations would be below National Ambient Air Quality Standards (or other thresholds) for criteria pollutants and hydrogen sulfide, but does not show the concentrations. The Draft RMP/EIS does not describe the methods used to calculate the projected concentrations. EPA recommends that BLM disclose this information in the Final RMP/EIS.

The results of the semi-quantitative analysis omit potential impacts to ozone, visibility, or deposition. The planning area encompasses the class I area of Arches National Park, and is adjacent to another Class I area, Canyonlands National Park, both of which enjoy special protection of air-quality related values. Ozone may be of particular concern because of the potential emissions of volatile organic compounds and oxides of nitrogen from sources in the planning area, including oil and gas development.

Although the Draft RMP/EIS mentions carbon dioxide (CO<sub>2</sub>) as a greenhouse gas that would be emitted by fires in the planning area (page 4-12), the document does not address potential effects on climate change in general. The Final RMP/EIS should include information on these effects from fires and other sources (e.g., oil and gas development). Additionally, we recommend that the BLM encourage oil and gas lessees to participate in EPA’s Natural Gas STAR program. Through the Program ([www.epa.gov/gasstar](http://www.epa.gov/gasstar)), EPA works with companies who produce, process, transmit, and distribute natural gas to identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a potent greenhouse gas.

Section 4.3.1.3 summarizes potential impacts to air quality. Oil and gas development is expected to occur at a relatively low rate of about 30 wells per year under the Preferred Alternative C. Because the semi-quantitative approach was taken, however, it is not possible to determine potential impacts from specific development on sensitive receptors in or near the planning area. Nevertheless, it is important to assign responsibility for project-specific air

quality analyses to future planners. EPA recommends that the Final RMP/EIS contain wording similar to the following excerpt from the Rawlins, Wyoming Draft RMP/EIS, which used a comparative, emissions-based approach: *“As project-specific developments are proposed, quantitative air quality analysis would be conducted for project-specific assessments performed pursuant to NEPA.”* We also believe that project-specific NEPA documents should be subject to full disclosure and public review.

## **Travel/Recreation Management Concerns**

The BLM’s MPA is internationally renowned for its recreational opportunities. Approximately two million visitors per year come to recreate on over half of the land area of the MPA. As a result, some of the MPA’s ecological and other important resources have been significantly impacted. In response, BLM is taking, or is proposing to take, a number of actions including: 1) restricting “open” OHV use in all but one area of the MPA by limiting recreational travel to designated routes; and 2) developing and implementing partnerships with Grand County and other local stakeholders to address environmental impacts in areas experiencing particularly heavy recreational use. However, EPA is concerned that without travel and recreational management prescriptions beyond those proposed under Preferred Alternative C, BLM will be unable to adequately control and mitigate ongoing and future impacts to cultural, paleontological, riparian, visual, soil, vegetation, rare plant and animal species, and other unique and valuable resources within the MPA. Accordingly, our detailed comments recommend a number of actions (e.g., special designations) proposed under Alternative B EPA believes will be needed to successfully address these impacts.

## **EPA’s Rating**

EPA has a responsibility to provide an independent review and evaluation of the potential environmental impacts associated with this Draft RMP/EIS. Based on the procedures EPA uses to evaluate the adequacy of the information and potential impacts of the Preferred Alternative, EPA is rating the Draft EIS as Environmental Concerns- Insufficient Information, “EC-2.” “EC” signifies that EPA’s review of this Draft RMP/EIS has identified environmental impacts that should be avoided in order to fully protect the environment. EPA is concerned that the actual and potential environmental impacts associated with the travel and recreation management issues the BLM is facing will not be adequately mitigated under the Preferred Alternative, and that a number of actions need to be included in the Final RMP/EIS as proposed under Alternative B. The rating of “2” indicates that the Draft RMP/EIS lacks sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. EPA is concerned about the lack of information associated with BLM’s analysis of air quality impacts within the MPA and believes that this information should be included in the Final RMP/EIS. A full description of EPA’s EIS rating system is enclosed.

EPA recognizes the complexity and diversity of the proposed resource management actions and supports BLM’s intention to move forward promptly to implement a new RMP plan based on emerging issues and changing circumstances. We expect that planning issues discussed in our comments will continue to be among those monitored as the plan is implemented. If you

would like to discuss these comments, or any other issues related to our review of the Draft RMP/EIS, please contact Douglas Minter at 303-312-6079. Thank you for the opportunity to comment.

Sincerely,

/s/ Larry Svoboda  
Director, NEPA Program  
Office of Ecosystems Protection and Remediation

Enclosures



# **Detailed EPA Comments on the Bureau of Land Management's Draft Moab Resource Management Plan and Environmental Impact Statement**

## **Background**

The BLM's MPA is internationally renowned for both its scenic quality and its recreational opportunities, which are the primary land use. Approximately two million visitors per year enjoy the diverse and varied recreational opportunities of the MPA and form the basis for Grand County's tourism-based economy. Recreational opportunities include scenic driving, mountain biking, hiking, rafting and boating, rock climbing, riding off-highway vehicles (OHVs), and horseback riding. Recreational use is estimated to occur with regularity on over half of the MPA.

Mineral exploration and development are another major use of public lands in the MPA. Oil and gas exploration and production has occurred within the planning area continually for the past 100 years. Production of oil and gas is currently taking place in Greater Cisco, eastern Book Cliffs, Lisbon Valley, and Big Flat areas. Other land uses within the planning area include rights-of-way for roads, pipelines, power lines, and communication sites, motion picture film permits, and livestock grazing.

Many important natural and cultural resources are found in the MPA. A number of federally listed wildlife species inhabit the planning area, including the Mexican spotted owl, southwestern willow flycatcher, Colorado pike minnow, humpback chub, bony tail chub, bald eagle, and peregrine falcon. The planning area also contains habitat for mule deer, elk, bighorn sheep (both desert and Rocky Mountain), and pronghorn antelope. Prehistoric sites (e.g., rock art along the South Fork of Mill Creek) of Anasazi and Fremont cultures are known to be in the planning area, as are later historic sites (e.g., Old Spanish Trail) of cultural significance.

## **Project Overview**

When completed, the RMP revision will provide a set of comprehensive, long-range decisions for: 1) managing resources throughout the planning area; and 2) identifying allowable uses on the public land surface and federal mineral estate administered by the BLM. Four Alternatives are proposed:

1. Alternative A is the No Action Alternative that would continue the existing management program primarily based on the 1985 RMP.
2. Alternative B emphasizes management actions to conserve ecosystem health and protect landscapes as well as encourage non-motorized recreation.
3. Alternative C is the Preferred Alternative emphasizing protection of important natural resources as well as commodity production and a full range of recreation opportunities.

4. Alternative D emphasizes commodity production and motorized recreation (note: as this Alternative would generally result in relatively greater environmental impacts than Alternatives B or C, it is not discussed further in the comments below).

Planning issues identified for this RMP revision focus on recreation and travel (including OHV use), minerals, special designations, and non-WSA lands with wilderness characteristics. In developing the Proposed RMP/Final EIS, the BLM may select various management decisions from each of the Alternatives analyzed in the Draft RMP/EIS for the purpose of creating a management strategy that best meets the needs of the resources and values in this area under the multiple use and sustained yield mandate.

Under Alternative C, 1,866 acres would be designated for “open” (i.e., cross-country motorized) OHV travel use (versus 0 acres in Alternative B), a significant decrease from the 620,212 acres currently “open” under Alternative A. Similarly, Alternative C would close 339,298 acres (versus 437,424 acres in Alternative B) to OHV travel, a significant increase from the 5,062 acres currently closed under Alternative A. All other OHV use is proposed to be limited to 2,642 miles of designated travel routes (including motorcycle trails) under Alternative C (versus 2,144 miles in Alternative B), a significant decrease from the 4,673 miles of travel routes currently designated under Alternative A.

Alternative C also proposes to: 1) designate 10 Special Recreation Management Areas (SRMA) covering 658,642 acres (versus 11 SRMAs covering 976,173 acres in Alternative B), a significant increase from the existing three SRMAs covering 141,234 acres under Alternative A; 2) designate five Areas of Critical Environmental Concern (ACEC) covering 63,232 acres (versus 14 ACECs covering 609,687 acres in Alternative B), an increase as no ACECs are currently designated under Alternative A; 3) recommend 10 segments of three eligible rivers as suitable for Wild, Scenic or Recreational River (WSR) designation (versus 28 segments of 12 eligible rivers in Alternative B), an increase as no segments are currently recommended as suitable under Alternative A; and 4) manage approximately 47,761 acres of non-Wilderness Study Area (WSA) lands (in three areas) to maintain their wilderness characteristics (versus approximately 266,485 acres of non-WSA lands in 32 areas under Alternative B), an increase as no non-WSA lands with wilderness characteristics are currently designated under Alternative A.

For oil and gas leasing, Alternative C proposes to: 1) close about 370,250 acres (versus 671,444 acres in Alternative B), a slight increase from the 353,293 acres currently closed under Alternative A; 2) manage about 217,480 acres with no surface occupancy (NSO) stipulations (versus 342,931 acres in Alternative B), a significant increase from the 38,912 acres currently stipulated as NSO under Alternative A; 3) open 427,273 acres with standard stipulations (versus 264,344 acres in Alternative B); a significant decrease from the 1,038,344 acres currently with standard stipulations under Alternative A; and 4) manage the remaining 806,994 acres with timing limitation (TL) or controlled surface use (CSU) stipulations (versus 543,751 acres in Alternative B), a significant increase from the 389,605 acres currently with TL or CSU stipulations under Alternative A. The following number of oil and gas production wells are projected for BLM lands within the MPA over the next 15 years: 451 wells (Alternative A), 264 wells (Alternative B), and 432 wells (Alternative C).

## Travel Management

We commend the BLM for moving from allowing “open” OHV travel throughout many parts of the MPA to limiting recreational travel to designated routes. We believe such designation in heavy OHV travel and unrestricted camping areas where resource damage is occurring is particularly important. This damage is occurring in many places within the MPA and includes impacts to soils, vegetation, cultural resources, scenic quality, riparian resources, and may include impacts to paleontological resources. Some of the areas experiencing significant impacts include: 1) Utah Rims; 2) Canyon Rims; 3) the Utah 313 Highway corridor including access to Labyrinth Canyon, Labyrinth Rims, upper Long Canyon, and the upper portion of the Gemini Bridges Route; 4) Courthouse, Mill, Tusher, Bartlett, and Brinks Canyons; 5) Kane Creek Crossing on the way to Hurrah Pass; 6) White Wash Sand Dunes; and 7) Ten Mile Wash/Canyon Area.

Alternative C’s proposal to restrict “open” OHV travel within the MPA to only one area, the White Wash Sand Dunes, has the potential to improve existing conditions of known sensitive resources as well as the vast majority of user experiences throughout the entire MPA. However, we are concerned that camping and unrestricted vehicle travel in the Dunes has resulted in damage to soils, scenic values, vegetation, cultural and paleontological resources, and riparian resources. Therefore, we can support this limited designation of continued “open”, OHV travel in the Final RMP/EIS if the BLM is able to restore and protect the Dunes’ ecological resources and scenic values including the cottonwood trees found in the open dune fields, drinking water sources, stream banks, and bighorn sheep habitat. Absent successful restoration and protection, we recommend that recreational travel in the White Wash area (like the rest of the Special Recreation Management Area) be subsequently limited to designated routes only with the proper mitigation measures (i.e., fencing and other barriers, signage, etc.) in place.

The Ten Mile Wash/Canyon area provides one of the richest and most abundant mixtures of riparian/wetland/hydrologic resources, and wildlife habitat within a very arid region of the MPA. These resources are considered vulnerable to environmental impacts from surface disturbances, including OHV travel. The Ten Mile watershed is the second largest tributary drainage in the MPA and the Wash is subject to extreme flooding, making it a safety hazard for OHV travel and camping. It also contains significant visual and cultural resources including sandstone buttes, cliffs, important habitation sites and unusual artifacts. We support Alternative C’s proposing management prescriptions (e.g., Class III inventory of cultural resources) necessary to protect these resources through ACEC designation. However, we are concerned that proposing designation of a travel route through the Canyon’s unique riparian corridor from Dripping Springs to the Green River for OHV travel will substantially increase the likelihood of further significant impacts to these resources. These impacts could include: a) vandalism and looting of cultural sites; b) increased risk to human safety from flash flooding; and c) loss of riparian vegetation and increased erosion, thereby adversely affecting riparian/watershed resource values. Accordingly, we recommend that no OHV travel route be designated through the Canyon in the Final RMP/EIS as proposed under Alternative B, to help ensure these

important ecological and cultural resources are protected, and the risk to human safety is minimized.

### **Recreation/Special Recreation Management Areas (SRMAs)**

A SRMA is a designation that requires explicit recreation management to achieve recreation objectives and provide specific recreation opportunities. We commend the BLM in developing and implementing a successful partnership with Grand County in 1995 to address the environmental impacts resulting from unauthorized OHV use and camping in the Sand Flats Recreation Area. Through this partnership user fees are now collected by the County to fund maintenance and restoration efforts to successfully mitigate many of these impacts. We support designation of the 10 proposed SRMAs in Alternative C, and believe BLM should develop and implement similar partnerships with local stakeholder groups to address ongoing resource damage in these proposed SRMAs, including Utah Rims, Labyrinth Rims/Gemini Rims, and Canyon Rims. We recommend the management prescriptions outlined in Alternative B designed to specifically address these impacts (e.g., prohibition of camping where appropriate, limiting camping to designated sites in high-use areas, and development of cultural-recreational management plans) be implemented to help restore and protect ecological, cultural, and other important resources.

The BLM's two law enforcement officers are faced with the considerable task of monitoring compliance and addressing violations associated with the growing demand for BLM lands within the MPA, including recreation. Recognizing BLM's limited capacity in the near-term to substantially increase its law enforcement presence to address this demand, EPA recommends that BLM leverage its existing law enforcement resources to the maximum extent possible. Specifically, we recommend that, in collaboration with its local partners, BLM maintain a credible field presence for promoting and monitoring recreational user compliance by hiring seasonal (spring through fall) field technicians to: 1) inform OHV and other recreational users of the management prescriptions in place; 2) construct signage and fencing or other barriers to prevent further impacts; 3) promptly remediate any new impacts to further discourage land use violations; and 4) document and report violations to BLM enforcement officers for ticketing.

### **Areas of Critical Environmental Concern (ACECs)**

An ACEC is a special designation that highlights areas where special management attention is needed to protect and prevent irreparable damage to important historic, cultural and scenic values; fish, wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards.

We support the ACECs proposed for designation in Alternative C. However, due in part to the threat of ongoing environmental impacts from heavy OHV use and associated activities (e.g., unrestricted camping) in several areas of the MPA noted above, we believe the following additional ACECs proposed in Alternative B also warrant special designation:



1) White Wash Sand Dunes: This area has suffered significant environmental impacts due to heavy OHV use and camping activities. Due to the area's significant riparian and cultural resources, and the sensitive soils that are highly mobile and active, we believe that all but one (i.e., "open" OHV travel limited to 1,866 acres) of the management prescriptions proposed under Alternative B are necessary in order to protect these valuable resources. It is critical that these Dunes be adequately protected to prevent further significant impacts. As noted above, the BLM should be prepared to close this remaining area of authorized "open" OHV travel if these prescriptions (e.g., vehicle-based camping only in campgrounds) and appropriate SRMA management controls are not successful in restoring and protecting the health of these ecological and cultural resources.

2) Labyrinth Canyon: The Canyon provides outstanding scenery, internationally recognized for its high cliff walls and canoe touring. It also features a number of early settlement historic sites along the Green River which is home to four endangered fish species: razorback chub, bonytail chub, humpback chub and the Colorado pikeminnow. We believe designating this viewshed as Visual Resource Management (VRM) I, closing or stipulating no surface occupancy (NSO) for oil and gas development, and prohibiting new road construction as proposed under Alternative B is needed to protect these visual resources, and prevent water quality impacts to the Green River and these endangered fish species.

3) Upper Courthouse: This area is 16 miles north of Moab and is experiencing increasingly heavy recreational (e.g., OHV) use. It features Big Mesa, the largest mesa in this area that is little altered by human activity, as it has never been grazed or driven upon. The Mesa supports relic (i.e., pre-settlement) plant communities and contains cryptobiotic soil crusts, an important natural element for controlling wind erosion. This area contains two rare plants on the State's sensitive list, the Trotter oreoxis, and almost all of the stage station milkvetch plants known in the world. It also contains irreplaceable historic resources including a known watering spot on the Old Spanish Trail, and significant paleontological deposits of dinosaur bones similar in quality to those found in Dinosaur National Park. While Alternative C proposes this area for SRMA designation to help manage the impacts from recreation, we believe that ACEC designation for this area is needed as proposed under Alternative B in order to fully protect these unique and valuable historic, paleontological, plant and soil communities.

4) Colorado River Corridor: The Corridor provides wildlife habitat considered to be rare and irreplaceable. This includes critical habitat for mule deer and desert bighorn sheep, a number of endangered fish species including the razorback sucker, bonytail chub, humpback chub and the Colorado pikeminnow, and State sensitive bird and mammal species including the yellow-breasted chats, Lewis woodpeckers, river otter, spotted bat, and big free-tailed bat. The Corridor is also home to a number of rare and endangered plant species including Jones cycladenia, Dolores rushpink, cave primrose, alcove bog orchid, alcove rock daisy, endemic alcove columbine, and is the only known location in the world of the sensitive Shultz stickleaf. This area also has some of the most significant, internationally recognized scenery in the western United States. The visual resources within the Corridor are considered very unique, and do not exist anywhere else. Accordingly, we believe that managing this viewshed as VRM I and closing or stipulating NSO for oil and gas development as proposed under Alternative B is

needed to help ensure that these valuable resources are not adversely impacted by the intense visitation this area is experiencing.

5) Canyon Rims: The scenic views from the Rims are some of the most spectacular in the western United States and are considered outstanding in quality. These Rims are also highly visible to the recreating public. We believe that designating this viewshed as VRM II, stipulating NSO for oil and gas development, and prohibiting new OHV routes as proposed under Alternative B is needed in order to protect this important and unique visual resource from further environmental impacts.

### **Non-Wilderness Study Areas (WSAs) with Wilderness Characteristics**

Non-WSA lands with wilderness characteristics (or “WC lands”) are areas of 5,000 acres or more, including acreage contiguous with WSAs, with landscapes generally in a natural or undisturbed condition. These areas also provide outstanding opportunities for solitude or primitive forms of recreation (non-motorized and non-mechanized activities in undeveloped settings).

We support giving priority to protect wilderness characteristics on non-WSA lands for the Beaver Creek, Mary Jane Canyon, and Fisher Towers areas as proposed under Alternative C. However, we are concerned that BLM will continue to face the threat of ongoing environmental impacts from heavy OHV use and associated activities (e.g., unrestricted camping) in several areas of the MPA noted earlier. In order to help ensure that important historic, cultural and scenic values, fish, wildlife resources and other natural systems or processes are adequately protected from these and other environmental impacts in these areas, we believe additional WC lands or portions of WC lands need to be managed for wilderness characteristics. These include the following WC lands that are within the ACEC designations we recommended above and are proposed to have OHV travel routes designated under Alternative C: Negro Bill Canyon (9 acres), portions of Goldbar (35 acres), Gooseneck (843 acres), portions of Labyrinth Canyon (5,436), and portions of Mill Creek Canyon (2,335 acres).

### **Wild and Scenic Rivers (WSRs) and Riparian Areas**

The Wild and Scenic Rivers Act of 1968 (WSRA) includes policy for managing designated rivers and created processes for designating additional rivers. Section 5(d) of the Act directs Federal agencies to consider the potential for national wild, scenic, and recreational river areas in all planning for the use and development of water and related land resources. It is BLM policy (8351 Manual, Section .32C) to manage eligible segments to protect their free-flowing nature, outstandingly remarkable values, and tentative classifications to the extent that BLM has the authority to do so. Until the Record of Decision (ROD) for the Final Moab RMP/EIS is signed, such protection involves case-by-case review and mitigation of any actions proposed that might affect the eligible river. Protective management will continue for any segments determined suitable in the ROD for the Final RMP/EIS. For each suitable river, the ROD will identify specific management conditions that are in keeping with a suitability decision.

Special Designation of a river as suitable for WSR status, among other things, protects habitats directly associated with the river (e.g., riparian, wetlands, open water) by mandating the protection of the river's "free-flowing character" and restricting surface disturbing activities within 1/4 mile on either side of the river. These protections overlap riparian management prescriptions preventing surface disturbance within 100 meters of riparian areas and wetlands, springs, and 100-year floodplains.

Consistent with EPA's regulatory responsibilities under the Clean Water Act, we consider the protection and restoration of the MPA's estimated 13,450 acres of riparian areas/wetlands to be a high priority. Representing less than 2% of the MPA, these resources are particularly valuable within a very arid region of the western US. These wetlands can contain diverse functions (e.g., flood storage and ground water recharge) and unique resources, such as rare hanging garden ecosystems, rare plant or wildlife species, or health indicator species including amphibians, arthropods, bats, etc. Table 3.22 in the Draft RMP/EIS indicates that only 57% of these riparian areas in the MPA are in proper functioning condition (PFC), while the remainder are either functioning at risk (34%) or are non-functioning (9%).

The 100-meter riparian buffer zones will afford wetlands some degree of protection from oil and gas production, recreation, and other potential impacts. However, we believe the 1/4 mile buffer zone created (from each side) of a river when designated as suitable for WSR status should be considered for wetlands: 1) not in PFC; 2) vulnerable to these and other (e.g., grazing) impacts; and 3) along stream segments with steeper slopes or more erodible or sensitive soils. Such designation can also help ensure the success of the BLM restoration efforts for priority wetlands identified in Table 3.25. Accordingly, we support the proposal to recommend 10 segments of three eligible (i.e., Colorado, Green, and Dolores) rivers as suitable for WSR designation under Alternative C. However, we believe that additional eligible river segments that meet the above criteria should also be recommended as suitable for WSR designation. These include river segments along Onion Creek, Mill Creek, Thompson Wash/Canyon, Negro Bill Canyon, Beaver Creek, Professor Creek, Rattlesnake Canyon, Cottonwood Canyon, and additional segments of the Green River as proposed under Alternative B.

## **Sensitive Soils**

There are a variety of sensitive soils in the MPA, including highly saline soils, erodible soils, and drought intolerant soils. Approximately 15,900 acres of highly water erodible soils occur in the MPA, 1,303,433 acres of moderately wind erodible soils, and 39,350 acres of highly wind erodible soils. The MPA also contains approximately 314,901 acres of saline soils, primarily confined to the Mancos lowlands along I-70. Biotic soil crusts play a major role in reducing water and wind erosion of these sensitive soils and in preventing the establishment of invasive annual grasses, thereby preventing impacts on water quality (e.g., salinity and sedimentation) and air quality (e.g., visibility). All of these soil resources need special management, as they are extremely susceptible to impacts from grazing, OHV travel, and oil and gas production. These resources can be difficult to restore and reclaim once disturbed.

Given the extent and susceptibility of these vulnerable soils resources, we recommend that the BLM use Standards for Rangeland Health and Guidelines for Grazing Management proposed under Alternative B. This Alternative, which exclusively calls for implementing range projects solely to reduce soil compaction and erosion, would protect and restore to PFC up to 4,442 acres of riparian/wetlands resources along 58 miles of perennial streams (i.e., approximately 33% of these resources in the MPA, compared to 8% as proposed under Alternative C). We are also concerned that areas that have relatively large acreages of sensitive soils (i.e., the Greater Cisco and Book Cliffs Reasonably Foreseeable Development Areas) will be significantly impacted from surface disturbances (e.g., road construction) associated with relatively high levels of oil and gas production. These impacts include destruction of biological soil crusts, erosion and subsequent sedimentation/salinization of surface waters, reduced visibility, loss of soil productivity, and invasion of noxious weeds. Therefore, we recommend that these areas be limited to the 149 wells proposed under Alternative B, which represents approximately 50% less surface disturbance than proposed under any of the other Alternatives.

## **Air Quality**

The second paragraph on page 4-17 discusses rates of emissions from compressor engines in grams per horsepower-hour, consistent with EPA's methods. Table 4.6 shows emission rates in grams per second, but the text does not explain whether BLM made this calculation in order to estimate impacts using the semi-quantitative method or for some other reason. An explanation is needed in the Final RMP/EIS as to why different units appear in this section, or convert emission rates to the same units.

Under the heading of Fugitive Dust (Construction Period) on page 4-23, the DEIS states, "Soils in the MPA have been characterized as having low to moderate wind-erodibility." The Draft AMS, however, mentions wind events that have entrained dust from Mancos shale landscapes and caused highway closures and accidents. The Draft AMS also states "BLM is interested in identifying areas of Mancos derived soils that may be more prone to dust creation after disturbance." The combined information from the two documents suggests that erosion-prone soils are not prevalent, but can contribute to wind-blown dust events where they exist. In the Final RMP/EIS, BLM should address the potential for these wind events and the Bureau's plans to mitigate their impact.

Pages 4-18 and 4-19 briefly discuss potential increases in the use of OHVs in the MPA, projected air quality effects from OHVs including particulate matter, and notes that heavy recreational use in relatively small areas may result in short-term exceedances of air quality standards or PSD increment criteria. However, it does not present details of BLM's estimates of increases in OHV use (e.g., in vehicle-miles traveled or similar measure) that factored into the estimate of impacts. More specific information is needed on the role of increased OHV use in potential air quality impacts and whether/how BLM's decision to move to a designated recreational trail system may affect this.

## **Water Quality**

We are concerned about a number of contaminant sources identified in the Draft RMP/EIS that have impacted or could directly impact surface and ground water resources, and indirectly impact aquatic plant and fish (e.g., endangered) species. These sources and resultant impacts include intrusion of saline groundwater, erosion of saline soils, invasive plants (e.g., tamarisk) introducing salts into riparian streams, metals and other chemical contaminants leaching from abandoned mines, temperature and restricted flows from return irrigation, erosion from fire-impacted areas, sedimentation from grazing, and a variety of impacts (e.g., human waste) from OHV travel and dispersed camping in/around streambeds. Where: 1) water quality impacts are significant (e.g., Kane Creek Crossing and Bartlett/Tusher/Ten Mile areas from OHV travel and camping); or 2) water bodies are particularly vulnerable (e.g., Mill Creek as a 303(d) listed stream with Total Maximum Daily Loads), more site-specific information is needed (e.g., on page 4-294) in the Final RMP/EIS on how water quality is being threatened and impacted from one or more of these contaminant sources. We are also concerned that the mitigation measures proposed under Alternative C will not be sufficient to restore surface and ground water resources in these impacted and vulnerable areas. As stated above in our recreation and travel management comments, we believe more stringent mitigation measures (e.g., prohibition of camping) are needed in these areas as proposed under Alternative B in order to restore and adequately protect these resources.